



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

*Signed June 26, 2002*

**MEMORANDUM**

**SUBJECT:** CSTAG Recommendations on the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

**FROM:** Stephen J. Ells /s/ Stephen J. Ells  
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Contaminated Sediments Technical Advisory Group (CSTAG)

**TO:** Shari Kolak, RPM  
Region 5

**Background**

OSWER Directive 9285.6-08, *Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites* (Feb. 12, 2002), established the CSTAG as a technical advisory group "that will monitor the progress of and provide advice regarding a small number of large, complex, or controversial contaminated sediment Superfund sites". The main purpose of the CSTAG is to help Regional site managers (i.e., RPMs and OSCs) of selected large, complex, or controversial sediment sites appropriately manage their sites throughout the Superfund process in accordance with the 11 risk management principles set forth in the OSWER Directive. CSTAG membership consists of one representative per Region, two from the Office of Research and Development, one from the Office of Water, and two from the Office of Emergency and Remedial Response.

**Brief Description of the Site**

On August 30, 1990, the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site was included on the National Priorities List (NPL). The site includes five disposal areas, six paper mill properties, the Kalamazoo River (a tributary of Lake Michigan that flows northwest), and Portage Creek, a tributary of the Kalamazoo River. It encompasses

approximately 80 river miles and contains a number of landfills adjacent to the Kalamazoo River. There are five Operable Units (OUs) associated with this site:

- OU1, Allied Paper Landfill
- OU2, Willow Blvd/A-Site Landfill
- OU3, King Highway Landfill
- OU4, 12<sup>th</sup> Street Landfill
- OU5, Portage Creek and the Kalamazoo River

The primary contaminant of concern is PCBs. PCBs have been found in river and lake sediments, in soil and paper waste in the flood plains (including areas which were formerly impoundments behind three state-owned dams), and in fish (carp and smallmouth bass). PCBs also reside in the four landfills adjacent to the river. It is estimated that the site contains over 110,000 pounds of PCBs and over 8 million cubic yards of contaminated river and flood plain sediment/soil/paper waste.

The CSTAG visited the site and met with the RPM on April 15 - 17, 2002. Six stakeholder groups associated with the Superfund site were invited to participate in the meeting and made short presentations to the CSTAG. They were: the Kalamazoo River Study Group, the Michigan Department of Environmental Quality, the Kalamazoo River Protection Association, the Kalamazoo River Watershed Council, the U.S. Fish and Wildlife Service, and the Michigan Department of Natural Resources.

#### **CSTAG Recommendations**

Based upon our site visit, our review of the site information provided to us, and the oral presentations made by several stakeholders, the CSTAG is making the following recommendations to the site RPM on how to more fully address the 11 principles. The CSTAG expects that the RPM will consider these recommendations as the investigations continue, as the conceptual site model is refined, and as remedial alternatives are developed and evaluated. The RPM should send a short written response to these recommendations to the CSTAG co-chairs within 60 days.

#### **Principle #1, Control Sources Early**

- For the Landfill OUs, investigate the groundwater contributions to PCB loading into the river and determine whether existing or planned source control measures are sufficient to prevent sediment recontamination.
- Evaluate other upstream surface water and sediment sources such as Morrow Lake in order to determine whether there is a significant ongoing source(s); suggest sampling dissolved and particulate (or total) PCBs in surface water.
- Evaluate the extent to which paper waste in formerly inundated areas is an ongoing source to help determine if it should be addressed prior to or concurrently with in-stream sediment remediation.

## **Principle #2, Involve the Community Early and Often**

- Although recreational fishing is common in the river, work with the communities to determine the nature and extent, if any, of subsistence fishing. Consider gathering this information on a reach-specific basis.
- Engage the community in discussions about risk assessment assumptions and uncertainties, especially with regard to local fish consumption practices.
- Continue to engage the community and local interested groups such as the Kalamazoo River Watershed Council and the Kalamazoo River Protection Association, especially in discussions about the criteria and considerations EPA uses in its remedy selection process. Brainstorm with various parties about how to meet their seemingly opposing needs and to address constraints (i.e., group problem-solving).
- Consider ways to increase local outreach, e.g., develop a web site, provide information to Realtors about existing areas of contamination to disclose to potential buyers, conduct workshops, sponsor forums, etc.

## **Principle #3, Coordinate with States, Local Governments, Tribes, and Natural Resource Trustees**

- Continue discussions with Trustees on coordinating trustee restoration and Superfund remediation efforts. Clarify who the Trustees are, what are their Trust resources, and encourage them to designate a lead Trustee.
- Clarify Tribal interests in the site.
- Encourage the State to revise the fish advisory signs to make them more understandable and to place them at popular fishing areas.
- Continue to work with MDNR on issues with regard to financing dam removal and/or maintenance and on coordinating sediment management as part of any dam project.
- Consider the need for a cultural resources survey in areas that may be impacted by remediation activities.

## **Principle #4, Develop and Refine a Conceptual Site Model that Considers Sediment Stability**

- Include the fate of dams in the conceptual site model and sediment stability analysis; i.e. evaluate removal, failure, and maintenance scenarios separately.
- Evaluate the relative risk contribution of PCBs into the river and into mink and fish from the PCB-contaminated paper waste in the flood plains and formerly inundated areas as

compared to the contribution from the in-stream sediments through water column transport or via sediment transport.

- Based upon the information presented to the CSTAG by the MDNR, determine if the Indiana bat is a threatened or endangered species in the area.
- Analyze the effects of high flow events, recreational boat traffic, and bioturbation on sediment stability.
- The site investigation for the second phase of OU5 should evaluate the release of contaminated sediments into Lake Michigan.

#### **Principle #5, Use an Iterative Approach in a Risk-Based Framework**

- The CSTAG supports the general approach of starting upstream and moving downstream, and incorporating lessons learned as remedial actions progress.

#### **Principle #6, Carefully Evaluate the Assumptions and Uncertainties Associated with Site Characterization Data and Site Models**

- Continue to evaluate the fate and transport modeling and probabilistic risk assessment being performed by the PRPs.
- In subsequent updates to the 11 principals “consideration memo”, the RPM should provide more information about the major exposure parameters selected for the human health and ecological risk assessments and input parameters to the fate and transport model, and discuss the uncertainties associated with them.
- Provide information about the estimated baseline non-cancer human health risks.
- Consider collecting surface water data, including total suspended solids, and dissolved and particulate PCBs, during and after high flow events for use in the fate and transport model.
- If, as expected, a fate and transport model will be relied upon heavily to assist in remedy selection, begin planning for its peer review.

#### **Principle #7, Select Site-specific, Project-specific, and Sediment-specific Risk Management Approaches that will Achieve Risk-based Goals**

- The CSTAG supports the Region’s planned approach of setting cleanup levels and remedial approaches on a reach-specific basis to achieve site-wide Remedial Action Objectives.

#### **Principle #8, Ensure that Sediment Cleanup Levels are Clearly Tied to Risk Management Goals**

- Background information and briefing packages should make it clearer that sediment cleanup levels are surrogates for fish tissue concentrations that would be protective for both human health and fish-eating mammals such as mink.

**Principle #9, Maximize the Effectiveness of Institutional Controls and Recognize their Limitations**

- Conduct outreach to educate the public about the existing fish consumption advisories.
- If an alternative is proposed that assumes one or more of the dams will stay in place, develop mechanisms to ensure dams are maintained, or consider developing a contingency remedy that would address the fate and transport of the impounded sediments if one or more of the dams are removed.

**Principle #10, Design Remedies to Minimize Short-term Risks while Achieving Long-term Protection** The CSTAG recognizes that site investigations are still going on, that data is still being evaluated, and that the Region is not ready to propose a remedy for the site. Nevertheless, the CSTAG felt it was appropriate to make the following recommendations on designing a remedy at this time.

- Select remedies that avoid or minimize impacts to aquatic habitat, or provide for habitat mitigation to compensate for unavoidable impacts. For example, if sheet piling is proposed, more habitat friendly alternatives should also be considered.
- In order to minimize short-term risks from dredging, consider excavating the sediments after diverting the river.
- Evaluate on-site placement of dredged material and use of existing landfills to the extent possible.

**Principle #11, Monitor During and After Sediment Remediation to Assess and Document Remedy Effectiveness** The CSTAG recognizes that the Region will not be developing a long-term monitoring program for this site for some time, but offers the following recommendation on monitoring to be considered in the future.

- Since the State has a mussel monitoring program in-place, consider using mussels as part of a long-term monitoring program.

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